	Application No.	Applicant(s)	
Notice of Allowability	10/632,767	GRIGOROVITCH ET AL.	
	Examiner	Art Unit	
	CHRISTOPHER D. BIAGINI	2445	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *the Request for Continued Examination (RCE) filed April 6, 2010*.

2. ☒ The allowed claim(s) is/are *1,2,4,6-12,14-18,20-22,24,25,36 and 37*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some*   c) ☐ None   of the:

        1. ☐ Certified copies of the priority documents have been received.

        2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

        3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

    * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

    (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached

        1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____ .

    (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of
        Paper No./Mail Date _____ .

    Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)

2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)

3. ☐ Information Disclosure Statements (PTO/SB/08),
    Paper No./Mail Date _____

4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application

6. ☒ Interview Summary (PTO-413),
    Paper No./Mail Date *2/2/2011* .

7. ☒ Examiner's Amendment/Comment

8. ☐ Examiner's Statement of Reasons for Allowance

9. ☐ Other _____ .

/Andrew Caldwell/
Supervisory Patent Examiner, Art Unit 2445

EXAMINER'S AMENDMENT/COMMENT

Allowable Subject Matter

Claims 1, 2, 4, 6-12, 14-18, 20-22, 24, 25, 36, and 37 are allowed.

The following is an examiner's statement of reasons for allowance: the prior art of record does not teach or suggest a combination as claimed in each of the independent claims, including where a client device receives a plurality of portions of a streaming media file for presentation to a user, where at least two of the portions are encoded at different bit rates, and where the client device creates media cache streams associated with the bit rates that are used to store the respective portions in a single cache file on the client device. The closest prior art document of record, US Pub. No. 2002/0161911 to Pinckney, III et al., discloses a proxy server which can reencode a content file and cache the reencoded data in data structures associated with different bit rates (see Fig. 10 and [0058]), but does not disclose creating media cache streams at a client device for storing a plurality of portions of streaming media encoded at different bit rates in a single cache file on the client device.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Examiner's Amendment

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Colin D. Barnitz (Reg. No. 35,061) on February 2, 2011.

The application has been amended as follows:

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method comprising:

receiving, at a client device for presentation to a user, a plurality of temporally non-

contiguous portions of a streaming media file, wherein:

temporally non-contiguous portions consist of portions of a received streaming

media file that are not adjacent to one another in terms of ~~the~~ temporal presentation of

~~their~~ content of the non-contiguous portions during playback, and

at least a first and a second of the temporally non-contiguous portions of the

received streaming media file ~~being~~ are encoded at different bit rates, wherein the first

and second non-contiguous portions comprise video data and wherein a third non-

contiguous portion comprises audio data; and

storing the plurality of temporally non-contiguous portions of the received streaming

media file in a single cache file on the client device, wherein the act of storing comprises:

creating, at the client device, a plurality of media cache streams, each media cache

stream being associated with a unique bit rate;

storing the first non-contiguous portion in a media cache stream associated with

the bit rate of the first non-contiguous portion;

storing the second non-contiguous portion in a media cache stream associated

with the bit rate of the second non-contiguous portion; and

storing, by the client device, the media cache streams in the cache file.

2. (Original) A method as defined in claim 1, wherein the first and second non-contiguous

portions comprise video data.

3. (Canceled)

4. (Original) A method as defined in claim 1, wherein the cache file is stored in non-volatile

memory.

5. (Canceled)

6. (Original) A method as defined in claim 1, wherein the act of storing comprises:

creating a first media cache stream associated with the bit rate of the first non-contiguous

portion;

storing the first non-contiguous portion in a media cache segment of the first media

segment stream;

creating a second media cache stream associated with the bit rate of the second non-

contiguous portion;

storing the second non-contiguous portion in a media cache segment of the second media

cache stream;

creating a byte cache index segment and a byte cache data segment for each media cache

segment; and

storing the byte cache index segments and the byte cache data segments in the cache file.

7. (Currently Amended) A method comprising:

creating, at a client device, a plurality of media cache streams, each media cache stream being associated with a unique bit rate;

receiving, at the client device for presentation to a user, a plurality of temporally non-contiguous portions of a streaming media file, two or more of the temporally non-contiguous portions being encoded at different bit rates, wherein:

temporally non-contiguous portions consist of portions of a received streaming media file that are not adjacent to one another in terms of ~~the~~ temporal presentation of ~~their~~ content of the non-contiguous portions during playback, and

each temporally non-contiguous portion ~~being~~ is associated with a unique temporal section of the streaming media file;

storing each temporally non-contiguous portion in a media cache segment of a media cache stream associated with a bit rate at which the temporally non-contiguous portion was encoded, at least two of the temporally non-contiguous portions being stored in media cache segments in different media cache streams; and

storing, by the client device, each of the media cache streams in a single cache file.

8. (Original) A method as defined in claim 7, wherein the act of storing comprises:

creating a byte cache index segment and a byte cache data segment for each media cache segment; and

storing the byte cache index segments and the byte cache data segments in the cache file.

9. (Original) A method as defined in claim 7, wherein the act of storing comprises:

creating a byte cache index segment and a byte cache data segment for each segment; and

serializing the byte cache index segments and the byte cache data segments in the cache

file.

10. (Original) A method as defined in claim 7, wherein the cache file is stored in a non-volatile

manner.

11. (Currently Amended) A system comprising:

a client device comprising:

a processor;

a data storage module;

a caching module operable to receive and store a plurality of temporally non-

contiguous portions of a streaming media file for presentation to a user, the streaming

media file including different data types, in a cache file in the data storage module, two or

more of the plurality of temporally non-contiguous portions being encoded at different bit

rates, wherein:

the caching module comprises processor executable code; and

the caching module is operable to:

create a plurality of media cache streams, each media cache stream being

associated with a streamed media data type and a streamed media encoded bit

rate; ~~and~~

store each temporally non-contiguous portion of received streamed media

data as a media cache segment in a media cache stream associated with the

streamed media data type and a streamed media encoded bit rate of the temporally

non-contiguous portion;

parse each media cache segment into a byte cache index segment and a

byte cache data segment; and

store the byte cache index segments and the byte cache data segments in

the cache file.

12. (Original) A system as defined in claim 11, wherein the data storage module comprises a

non-volatile data storage device.

13. (Canceled)

14. (Original) A system as defined in claim 11, wherein the caching module comprises:

a media cache module operable:

to store each of the plurality of temporally non-contiguous portions as a media cache

segment in one of a plurality of media cache streams; and

parse each media cache segment into a byte cache index segment and a byte cache data segment.

15. (Original) A system as defined in claim 11, wherein the caching module comprises:

a media cache module operable to:

store each of the plurality of temporally non-contiguous portions as a media cache segment in one of a plurality of media cache streams, each media cache stream being associated with a different bit rate; and

parse each media cache segment into a byte cache index segment and a byte cache data segment; and

a byte cache module operable to store the byte cache index segments and the byte cache data segments in the cache file.

16. (Original) A system as defined in claim 11, wherein the caching module comprises:

a media cache module operable to:

create a plurality of media cache streams, each media cache stream being associated with a unique bit rate; and

store each temporally non-contiguous portion as a media cache segment in a media cache stream associated with a bite rate at which the temporally non-contiguous portion was encoded; and

parse each media cache segment into a byte cache index segment and a byte cache data segment; and

a byte cache module operable to:

store the byte cache index segments and the byte cache data segments in the cache file.

17. (Original) A system as defined in claim 11, wherein the two or more of the plurality of temporally non-contiguous portions include a first video portion encoded at a first bit rate, a second video portion encoded at a second bit rate, and an audio portion, and wherein the first video portion, the second video portion, and the audio portion are stored in different media cache streams.

18. (Original) A system as defined in claim 11, wherein:

the streaming media file includes different data types; and

the caching module is operable to:

create a plurality of media cache streams, each media cache stream being associated with a streamed media data type and a streamed media encoded bit rate;

store each temporally non-contiguous portion of received streamed media data in a media cache stream associated with the streamed media data type and a streamed media encoded bit rate of the temporally non-contiguous portion; and

store the media cache streams in the cache file.

19. (Canceled)

20. (Original) A system as defined in claim 11, wherein the caching module is operable to:

store each of the plurality of temporally non-contiguous portions as a media cache

segment in one of a plurality of media cache streams;

create a segment/stream map specifying the media cache segment and stream in which

each temporally non-contiguous portion is stored; and

parse each media cache segment into a byte cache index segment and a byte cache data

segment.

21. **(Currently Amended)** A computer-readable storage medium, wherein the medium is not a

signal, having computer-executable instructions for performing acts comprising:

storing, at a client for presentation to a user, a plurality of temporally non-contiguous

portions of a streaming media file received from a streaming media source in a cache file, each

of the plurality of temporally non-contiguous portions being encoded at a different bit rate,

wherein the act of storing comprises:

creating, at the client device, a plurality of media cache streams, each media cache stream

being associated with a unique bit rate;

receiving a first video portion of the streaming media file encoded at a first bit rate;

storing the first video portion in a media cache video stream associated with the first bit

rate;

receiving a second video portion of the streaming media file encoded at a second bit rate;

storing the second video portion in a media cache video stream associated with the

second bit rate;

receiving a third video portion of the streaming media file encoded at a first bit rate, the a

third video portion being temporally non-contiguous from the first video portion;

storing the third video portion in the media cache video stream associated with the first

bit rate;

receiving a first audio portion of the streaming media file; ~~and~~

storing the first audio portion in a media cache audio stream; and

storing the audio and video media cache streams in ~~a~~ the cache file.

22. (Previously Presented) A computer-readable storage medium as defined in claim 21,

wherein the act of storing comprises:

receiving a first video portion of the streaming media file encoded at a first bit rate;

storing the first video portion in a media cache video stream associated with the first bit

rate;

receiving a second video portion of the streaming media file encoded at a second bit rate;

storing the second video portion in a media cache video stream associated with the

second bit rate;

receiving a first audio portion of the streaming media file;

storing the first audio portion in a media cache audio stream; and

storing the audio and video media cache streams in a cache file.

23. (Canceled)

24. (Previously Presented) A computer-readable storage medium as defined in claim 21,

wherein the act of storing comprises:

storing each of the temporally non-contiguous portions in a unique media cache segment;

forming at least two byte cache segments from each media cache segment; and

storing the byte cache segments in the cache file.

25. (Previously Presented) A computer-readable storage medium as defined in claim 21,

wherein the act of storing comprises:

storing each of the temporally non-contiguous portions in at least two byte cache

segments; and

storing the byte cache segments in the cache file.

26-35. (Cancelled).

36. (Currently Amended) A system comprising:

a client device comprising a processor and a memory, the memory storing code

comprising:

means code for receiving a plurality of temporally non-contiguous portions of a

streaming media file for presentation to a user, wherein temporally non-contiguous portions

consist of portions of a received streaming media file that are not adjacent to one another in

terms of the temporal presentation of their content of the non-contiguous portions during

playback, and at least two of the plurality of temporally non-contiguous portions of the streaming

media file are encoded at a different bit rate, wherein the first and second non-contiguous

portions comprise video data and wherein a third non-contiguous portion comprises audio data;

and

~~means~~ code for associating and storing the plurality of temporally non-contiguous

portions of the streaming media file in a data structure of a single cache file, wherein the act of

storing comprises:

creating a plurality of media cache streams, each media cache stream being

associated with a unique bit rate;

storing the first non-contiguous portion in a media cache stream associated with

the bit rate of the first non-contiguous portion;

storing the second non-contiguous portion in a media cache stream associated

with the bit rate of the second non-contiguous portion; and

storing the media cache streams in the cache file at the client device.

37. (Currently Amended) A method comprising:

receiving, at a client device for presentation to a user, a plurality of first portions of a

streaming media file from a remote server device via a network connection, wherein the plurality

of the first portions of the streaming media file is encoded at a first bit rate and is selected for

transmitting to the client device based on a currently available bandwidth of the network

connection between the client device and the remote server device;

storing the plurality of the first portions of the received streaming media file on the client

device, wherein the storing comprises:

creating, at the client device, a first media cache stream being associated with the

first bit rate; and

storing the plurality of the first portions of the received streaming media file in the

first media cache stream associated with the first bit rate of the first portion;

detecting, at the client device, that a change in the bandwidth occurs in the network

connection between the client device and the remote server device;

receiving, based on the changed bandwidth of the network connection, a plurality of

second portions of the streaming media file from the remote server device via the network

connection, wherein the plurality of the second portions of the streaming media file is encoded at

a second bit rate different from the first bit rate and is selected for transmitting to the client

device based on the changed bandwidth of the network connection between the client device and

the remote server device;

storing the plurality of the second portions of the received streaming media file on the

client device, wherein the act of storing comprises:

creating, at the client device, a second media cache stream being associated with

the second bit rate; and

storing the plurality of the second portions of the received streaming media file in

the second media cache stream associated with the second bit rate of the second portion;

and

storing the first media cache stream and the second media cache stream in a single cache

file at the client device, wherein the single cache file comprises data identifying the first media

cache stream and the second media cache stream in the single cache file.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHRISTOPHER D. BIAGINI whose telephone number is (571)272-9743. The examiner can normally be reached on weekdays from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Caldwell can be reached on (571) 272-3868. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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